

From: [HOPE Bruce](#)
To: [Eric Blischke/R10/USEPA/US@EPA](#)
Cc: [Chip Humphrey/R10/USEPA/US@EPA](#); [PETERSON Jenn L](#); [POULSEN Mike](#); [Burt Shephard/R10/USEPA/US@EPA](#)
Subject: Food web models
Date: 06/01/2006 01:05 PM

Eric,

I agree with your sequence of events, the need for one model (unless issues of scale dictate otherwise), and how this model should work with the T&F model. Per the specifications that were laid-out a while back, it's a matter of: (a) having a model who's construction and operation is transparent to all, (b) making sure changes to it are evident and agreed upon (so that it is not manipulated to get the "right" answer), (c) of it explicitly showing the uncertainty in its estimates (because Windward's talk of "precision" ignores this important issue), and (d) making sure it links to the transport and fate (which will require it to retain its time-dependent capabilities).

The primary way scale could be a factor is if we really thought that different segments of the river would have significantly different food webs. My limited understanding is that this is either not the case or not a significant concern. This is why it seemed OK to have a generic food web model that captures the most likely and strongest biomagnification pathways.

We need and can have one food web model. But I remain concerned whether this is what Windward will deliver and, if the level of opacity in their previous reports on this topic persists, whether we'll be able to easily keep track of what they're doing. I base this on the immense difficulty Jennifer and I (and maybe others?) had figuring out their reports on the model selection process (we think they played games but it's almost impossible to be sure). I feel we'll get two different models (or maybe just the one they want) because Windward will (again) go off and do their own thing. Their thing may or may not address the specifications (e.g., items a-d above) but the gov't team will be hard pressed to keep pace. This may be particularly true given the compressed time frames that seem to be developing around getting to Round 3.

I feel the only way you're not going to have two models or a model the gov't can fully understand, is if you consider mandating time for the gov't side to figure out what Windward is doing (and either agree or fix it) before committing to a set of PRGs.

Bruce

-----Original Message-----

From: Blischke.Eric@epamail.epa.gov
[mailto:Blischke.Eric@epamail.epa.gov]
Sent: Thursday, June 01, 2006 12:20 PM
To: HOPE Bruce
Cc: Humphrey.Chip@epamail.epa.gov; [PETERSON Jenn L](#); [POULSEN Mike](#); Shephard.Burt@epamail.epa.gov
Subject: Re: FW: Conf call yesterday and FWM programming issues

Bruce, I guess I would like a little more clarity on why your think that we are on our way to two different food web models - one for PRGs and one linked to the fate and transport model to support the FS. My feeling is that we get the food web model up and running to describe the relationship between sediment, surface water and fish tissue. This model is then used to develop site specific PRGs that are used in the round 2 report and, following refinement based on Round 3 data collection efforts, taken into the FS. That same relationship is then linked to the fate and transport model to predict future fish tissue concentrations following implementation of sediment remediation and source control measures with the fate and transport model developing average concentrations for each fate and transport segment. Is the issue here a dynamic vs. steady state food web model? Is it a matter of model output and the ability to look at multiple scenarios? Is a function of the chemicals we model? Is it a scale question? I really would like one model that serves both purposes.

Eric

HOPE Bruce
<HOPE.Bruce@deq.state.or.us>

06/01/2006 11:27 AM

To
[Eric Blischke/R10/USEPA/US@EPA](#),
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cc
[POULSEN Mike](#)
<POULSEN.Mike@deq.state.or.us>,
[PETERSON Jenn L](#)
<PETERSON.Jenn@deq.state.or.us>
Subject
FW: Conf call yesterday and FWM
programming issues

Unless I hear otherwise, I will send Nancy a copy of the VBA code for the FW model, probably modified for PRG purposes. I do think that we should maintain and run our own version of this model, using Monte Carlo, so that we account for uncertainty in the input parameters (particularly the dietary matrix) and show uncertainty in the output. I'm sure that Windward will be aiming for a single number PRG - it would be good for the gov't team to know where this number falls with respect to protection - 5% or 95% or ?? With John Toll onboard it should be a problem for Windward to follow along.

And one last time, let me say that I think this sets you on a path toward a food web model exclusively for PRGs and another (maybe) for the FS.

-----Original Message-----

From: Nancy Judd [mailto:nancyj@windwardenv.com]
Sent: Thursday, June 01, 2006 10:56 AM
To: HOPE Bruce
Subject: Conf call yesterday and FWM programming issues

Bruce,
I think the call yesterday was very useful- although it was unfortunate the time did not work out for you. We went through the list of issues Eric sent out, including the programming issue. You and I talked about this some last week, and I told Eric I thought we could work it out in advance of the June 6th meeting. As we discussed, you have already converted the FWM into VBA with an Excel overlay- this is consistent with agency comments on the FWM TM that it be converted to VBA to improve transparency.

For application of the FWM with time steps, I can see that this conversion would be very useful. I think we would be willing to use your VBA version of the FWM for the development of PRGs for the Round 2 report if you can make it available to us in the next few weeks. Otherwise I would propose we just use the Excel version Jon Arnot provided. The only other alternative would be for us to independently convert the model from Excel to VBA which I think could create problems of its own since ours would likely be different from what you now have even if the models functioned the same. I'm not sure if this VBA transparency comment was yours or someone else's on the agency team. Based on the call the call yesterday, I got the impression that the Excel based model (which lacks macros except one for results display, which can be removed) was not an issue for all on the agency team. Please let me know what you think. My preference would be for us to just use Jon's Excel version or secondly, to use yours if its ready. It would be great if we could resolve this in advance of the June 6th meeting and focus that time on the other issues we have to work out. I am around all day today if you want to discuss this further. Thanks, Nancy

From: HOPE Bruce [mailto:HOPE.Bruce@deq.state.or.us]
Sent: Wednesday, May 31, 2006 8:52 AM
To: Nancy Judd
Subject: RE: Selection of species for FWM- 2 smaller issues

We're taking these and other FW model issues up at a gov't conference call this morning. I (or maybe Eric) will be getting back to you on what happens there.

-----Original Message-----

From: Nancy Judd [mailto:nancyj@windwardenv.com]
Sent: Friday, May 26, 2006 3:46 PM
To: HOPE Bruce
Subject: Selection of species for FWM- 2 smaller issues

Bruce,
Since the FWM will be used for RBCT (PRG) development for both eco and human health, we need agreement from both risk assessment groups on our list of species to model. I think several agency eco folks are already involved but wasn't sure about HH? On our side, the eco team seems to be fine with a reduced list of modeled species, but the HH team has some concerns about not including carp since there are populations that fish specifically for carp. The LWG HH team thought the agency HH team might have similar concerns.

Another issue is related to scavenging and cannibalism. In your doc (section 1.2.2.1) it says, that since the purpose of the model is to inform remediation decisions and not precisely predict tissue residues these relationships are not included. For application of the model to develop RBCTs (PRGs) would we want to consider those feeding strategies since precision is more of a priority? We had a generic juvenile fish compartment in our model for this reason. I can see the advantage of having the same structure for the FWM for both the RBCT application and fate and transport modeling, but we should all be comfortable with the assumptions we are making for both applications.

Thanks, Nancy

Nancy Judd

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